Future farmers markets stock carbon offset credits

An overview of voluntary carbon markets

By

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Agricultural and Environmental Experts

Introduction to greenhouse gases (GHG's) and carbon

- 7 gases considered directly responsible for climate change – one is carbon dioxide (CO_2)
- Different GHG's have different global warming potentials
- To enable the comparison of these different GHG's, their warming potential is graded against the warming potential of CO_2 as:

"Carbon dioxide equivalents" (CO_2e)

- Agriculture, forestry and other land uses estimated to produce 22 % of global GHG emissions and 10 % of SA emissions

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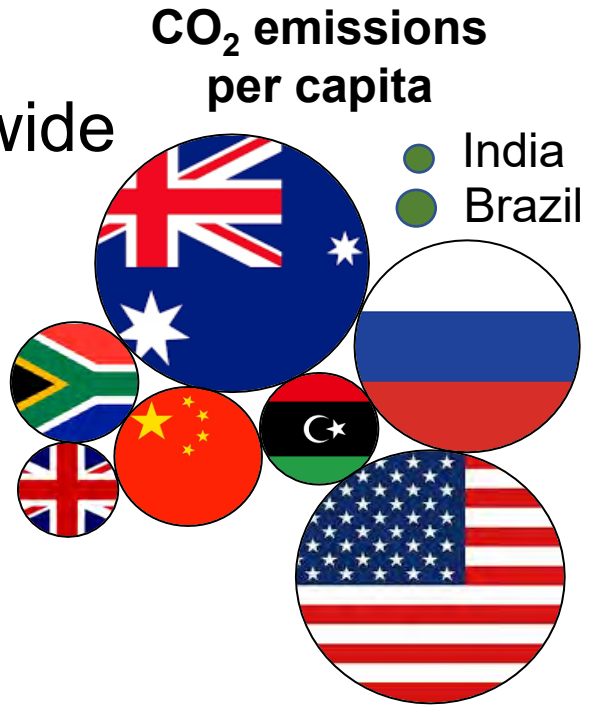
GHG's and carbon in South Africa

- South Africa ranked 14th largest GHG emitter worldwide
- Carbon Tax Act[1] introduced in 2019
- Applies to anyone with a 10MW thermal input capacity for their activities that result in emissions
- Agric exports could be impacted by Carbon Border Adjustment Mechanisms
- JSE Ventures is a *voluntary* carbon marketplace listed on the JSE



[1] Act 15 of 2019. Also see the Carbon Offset Administration System (www.carbon.energy.gov.za)

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Two types of carbon markets

- Voluntary
  - Can sell offsets locally or internationally
  - No centralised voluntary carbon market
  - Offsets from *some* SA projects can be used to reduce (SARS) carbon tax.

- Compliance
  - UN Kyoto Protocol commitments
  - Government driven
  - Regulated markets
  - Not in SA.

California Cap and Trade

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Carbon markets trade in carbon credits and offsets

- Interchangeable terms
- 1 carbon credit *or* offset = 1 tonne CO_2e (CO_2 equivalents)

Farming/conservation projects generate carbon offsets (trade in voluntary markets)

- Carbon offsets generally not sold/utilised in compliance markets

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The role of Crediting Programs and their Standards in carbon markets

- Crediting programs/companies develop Standards

- Usually NGO's.

- Standards provide the:
  - Rules,
  - Methods, and
  - Requirements

  for projects to have their carbon offsets certified and issued (to sell).

- Variety of Standards

- Contracted with, or manage registries.

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Components of Voluntary Markets

Carbon Offset Project

Submits application

Standard

Agriculture projects:

- Generally set up by a third party organization (termed “Project Developer” or “Project Proponent”).
- Manages the process (paperwork) of registration, verification etc.
- Sometimes funded by investors.

Gold Standard

Verified Carbon Standard
A VERRA STANDARD

CredibleCarbon

SCSglobal SERVICES
Setting the standard for sustainability

SUSTAINCERT

SGS

+/- 2-5 years

Registry

Issues carbon offsets

Sold by Project to an emitter

(Directly or via broker or a platform/exchange)

Credits retired

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Carbon offset projects

Comprise of:

- Carbon fixing activities, and/or

- Emission reduction/avoidance activities

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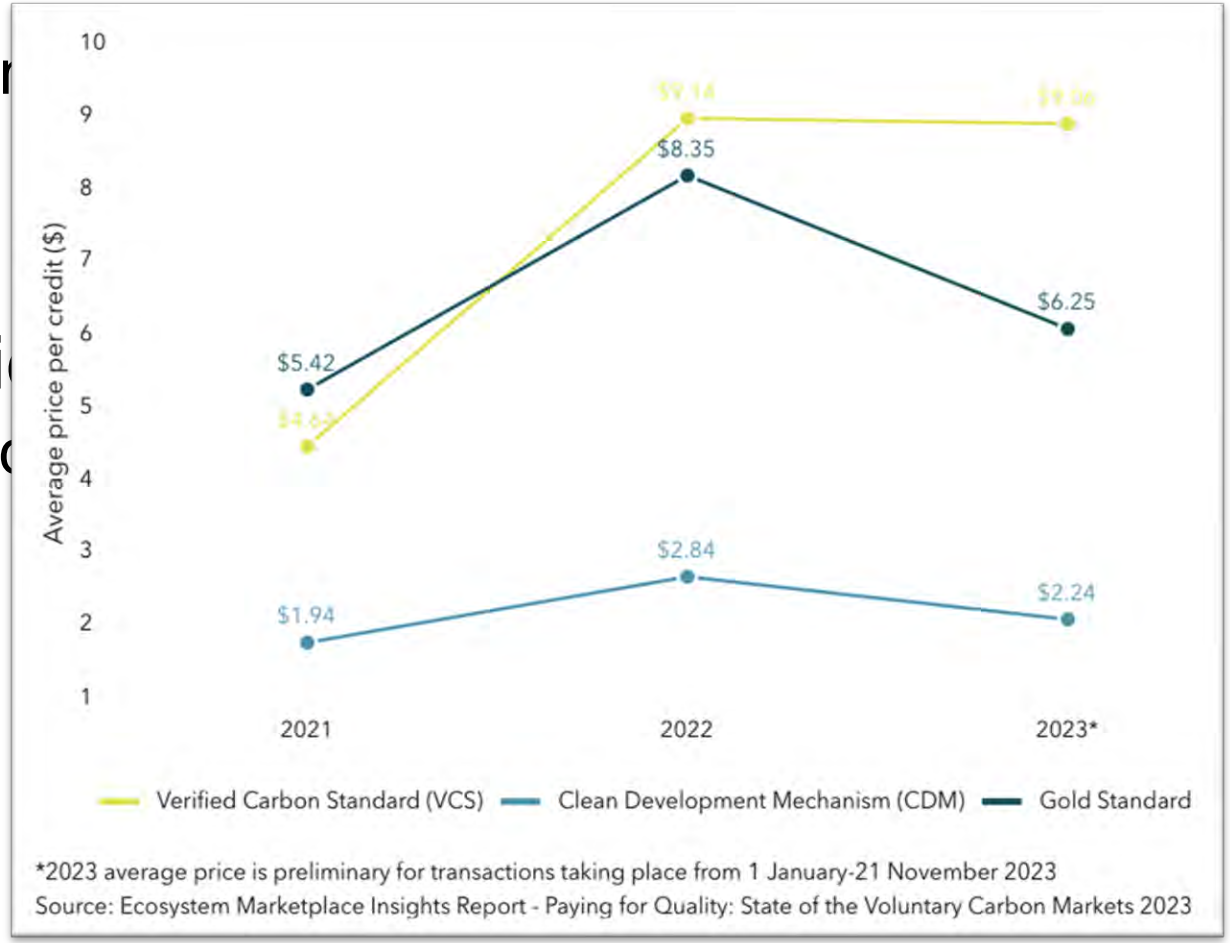
Price of carbon offsets

- Overall
  - Have riser
  - Expected
- Variable pri
  - Quality – c



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Why does the price of offset credits vary between Standards?

- Standard “quality”
  - Mainly dependent on additionality, permanence, leakage

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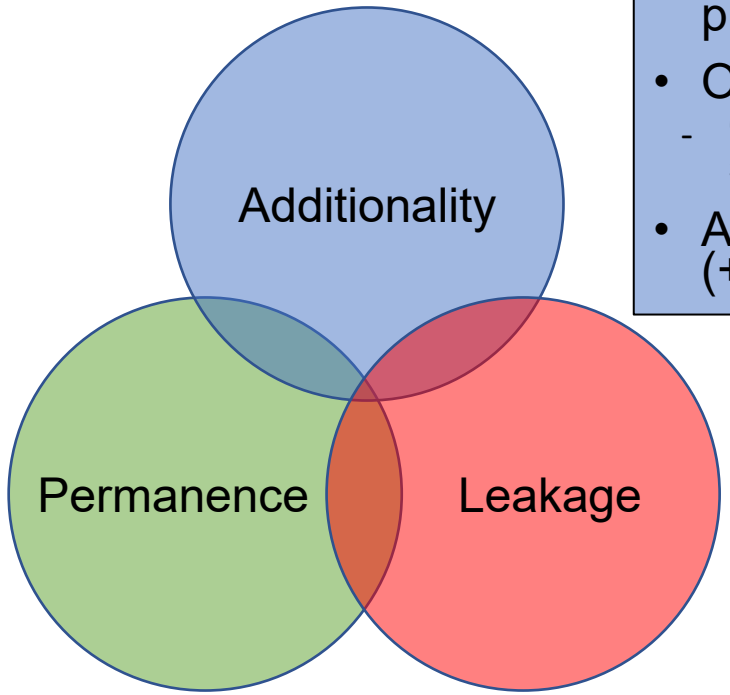
Additionality, permanence and leakage

“Additionality”

- Project activities only possible with incentives and resources provided by the project/ offset credits
- Offsets issued based on:
  - “with project” scenario - “baseline”/“without project” scenario
- Activity is not additional if common practice (+/- >20 %), due to new regulation, etc.



“Permanence”

- The longevity and durability of sequestered C.
- High permanence = high price
- 2023 prices:
  - <100 years permanence (soil C and reforestation projects): $25-50.t CO_2e;
  - <1 000 years permanence (biochar projects): $100-250.t CO_2e
- Risks to permanence must be monitored, mitigated, and if necessary compensated for.

”Leakage”

- Unintentional increase in GHG emissions outside the project's scope, due to implementation of the project
- Activity Shifting Leakage
- Market Leakage

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Additional contributors to Standard quality:

- Projects are well monitored, reported and verified – realistic, conservative, transparent estimates

- Projects do not cause harm – e.g. break laws, or negatively affect food security, local stakeholders or the environment

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How to further maximise income from offsets

- Projects receive more offset credits or occasionally a higher price for offset credits (within a Standard) if:
  - Co-benefits (social and environmental ~ 78 % premium)
  - Vintage (newer Projects receive a higher price)
  - Project location:
    - Country stability
    - Within SA to reduce SA Carbon tax
    - Note: SA Carbon Offset Administration System (www.carbon.energy.gov.za) only recognizes projects belonging to

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Bonsucro

- Certification of sustainability
- Have a number of criteria that need to be met
- Includes a climate adaptation and mitigation plan
- Certified growers receive higher prices for their sugar
- Bonsucro can assist Projects/growers by providing proof to Standards – but could reduce Additionality

Thinking about going down the carbon route?

- Good records are essential
  - Operations and timing per field - quantities of fertiliser, chemicals, fuel, man hours, etc.
  - Yields

View it from the perspective of your potential customer

- What will yield the most amount of carbon offsets
- Will (and how) these would work on your farm
- Potential Project Developers.

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Don’t trust salesmen

- Project Developers should:
  - Have experience with registering Projects – check Registries
  - Consist of a team with varied expertise
  - Understand your farming system
  - Help optimise your effort/input versus C offset income
  - Set out why other farmers may get lower/higher income with similar practice changes (e.g. soil texture influence)
  - Ideally advise and assist you through the changes
  - Set out who is responsible for what.

- Carefully examine the contract – proportion of income received, penalties, breach of contract (both parties) etc.

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SA sugarcane and carbon

- Pros: Large industry (= worthwhile for project developers), trustworthy industry records, good research

- Opportunities: Irrigation (coal powered), pre-harvest burning, synthetic fertilizer use, diesel use, mono-crop, conservation areas

- Project Developers
  - None (yet) with VCS, GoldStandard or CDM.

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The bottom line

- The demand for carbon offsets is likely to increase substantially
- An opportunity for farmers to transition to greener farming methods while reducing/negating any negative financial effects (school fees, yield loss, etc.)
- Has happened in other agricultural sectors – will come to sugarcane soon
- Like any opportunity needs careful investigation.

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Thank you